

48. The cell of claim 47, that is a mammalian cell.
49. The cell of claim 48, that is a human cell.
50. The cell of claim 46, wherein said recombinant polynucleotide comprises a promoter sequence operably linked to the nucleotide sequence encoding the hTERT protein or fragment thereof.
51. The cell of claim 46, that has an increased proliferative capacity relative to a cell that is otherwise identical but does not comprise the recombinant polynucleotide.
52. The cell of claim 51, that is a mammalian cell.
53. The cell of claim 52, that is a human cell.
54. The cell of claim 51, that is immortal.
55. The cell of claim 54, that is a mammalian cell.
56. The cell of claim 54, that is a human cell.
57. The cell of claim 56, wherein said nucleotide sequence encodes a full-length hTERT protein.
58. The cell of claim 56, wherein said nucleotide sequence encodes an hTERT protein encoded by bases 56-3451 of SEQ ID NO:1.
59. The cell of claim 56, wherein said nucleotide sequence encodes an 1132-residue protein hTERT protein having the sequence of SEQ ID NO:2.

61

Sub
C1

deposit?
60. The cell of claim 56, wherein the hTRT protein is that encoded by pGRN121 (ATCC accession no. 209016).

61. The cell of claim 51, wherein the recombinant polynucleotide comprises a vector sequence and the nucleotide sequence encoding the hTRT protein or fragment thereof.

62. The cell of claim 61, further comprising a promoter sequence operably linked to the nucleotide sequence encoding the hTRT protein or fragment thereof.

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63. The cell of claim 61, wherein the recombinant polynucleotide is integrated into a chromosome of the cell.

64. The cell of claim 61, wherein the nucleotide sequence encoding the hTRT protein or fragment thereof is SEQ ID NO:1 or a subsequence thereof.

65. The cell of claim 61, that is a mammalian cell.

66. The cell of claim 65, that is a human cell.

67. A recombinant cell that has greater proliferative capacity than a naturally occurring cell of the same type, wherein said recombinant cell expresses higher levels of an hTRT gene product than said naturally occurring cell.

68. The cell of claim 67, that is a eukaryotic cell.

69. The cell of claim 68, that is a mammalian cell.

70. The cell of claim 69, that is a human cell.

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71. The cell of claim 70, that comprises a non-naturally occurring hTRT gene.

*non-natural
in that cell,
or any
cell?*

72. The cell of claim 71, wherein the hTRT gene product is hTRT mRNA.
73. The cell of claim 72, wherein the hTRT mRNA encodes a full-length hTRT protein.
74. The cell of claim 72, wherein the hTRT mRNA is encoded by pGRN121 (ATCC accession no. 209016).
75. The cell of claim 71, wherein the hTRT gene product is an hTRT protein.
76. The cell of claim 75, wherein the hTRT protein is encoded by bases 56-3451 of SEQ ID NO:1.
77. The cell of claim 75, wherein the hTRT protein is the 1132 residue protein of SEQ ID NO:2.
78. A recombinant human cell having increased proliferative capacity compared to a normal cell of the same type, wherein:
- (a) said recombinant human cell comprises a nucleotide sequence encoding an hTRT polypeptide, and wherein said sequence is operably linked to a heterologous promoter;
 - (b) said recombinant human cell comprises a DNA sequence encoding an hTRT polypeptide, and said DNA sequence is integrated into a chromosome of said recombinant cell at a site other than the normal chromosomal location of the hTRT gene; or,
 - (c) the copy number of the hTRT gene in said recombinant human cell is greater than the copy number in a normal cell of the same type.
79. The cell of claim 78, wherein the heterologous promoter is inducible.
80. A non-human cell comprising a polynucleotide encoding an hTRT polypeptide.